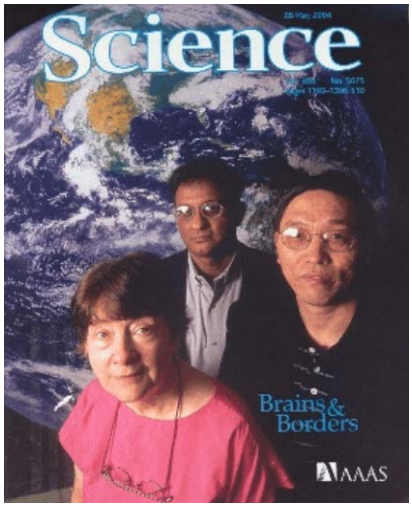
Biosketch

Sumant Nigam obtained his M.Sc. degree in Physics from the 5-year integrated science and engineering program at the Indian Institute of Technology, Kanpur, supported by National Science Talent Scholarship. He received his Ph.D. in Geophysical Fluid Dynamics from Princeton University in 1984, and postdoctoral training (1984-1987) at MIT, working with Richard Lindzen. Sumant came to the University of Maryland in 1987, where he is Professor of Atmosphere, Ocean, and Earth System Science. From 2000-2002, Sumant was director of the Large-scale Dynamic Meteorology program at the US National Science Foundation.

Sumant's interests are in climate dynamics, with a focus on the structure and mechanisms of circulation variability. His analyses of observations, theoretical diagnosis, and numerical modeling have advanced understanding of winter stationary waves, Asian and American monsoons, and the leading modes of climate variability, such as ENSO, NAO, and the NPO. Sumant proposed (with Lindzen) a new mechanism for tropical air-sea interaction, challenging the venerable Gill-model view of the tropical circulation in the large-scale subsidence zones over the eastern basins. More recently, Sumant has focused on the structure and mechanisms of hydroclimate variability, bringing the large-scale circulation perspective to regional hydroclimate problems, especially those of droughts and drying trends.

Sumant is currently involved in the dynamical diagnosis of multidecadal climate variability (e.g., Atlantic Multidecadal Variability) and its role in generating multidecadal trends in Arctic sea ice extent, Asian monsoon rainfall, North American droughts, and Atlantic hurricane counts. This research seeks to unravel the natural variability and secular change contributions in the modern climate record and advance understanding of the recent warming of the planet. Sumant is also investigating the potential predictability of summer monsoon rainfall from more effective use of the antecedent SST evolution information. The Laboratory for Experimental Hydroclimate Prediction that he directs is generating seasonal forecasts for the South Asian summer monsoon rainfall since May 2016.

Sumant chairs the Climate Variations and Change Committee of the American Meteorological Society and the Advisory Panel for NCAR's Climate and Global Dynamics Laboratory. He also serves on the International Commission on Dynamic Meteorology and on the advisory committee of NCAR and the NSF-Geosciences directorate. Sumant was a member of the Climate Research Committee and the Board of Atmospheric Sciences and Climate of the US National Academies from 2008-2012. He previously served as co-chair of the Climate Variability working group of NCAR's Community Climate System Model and as Editor of the Journal of Climate. Sumant received the Distinguished Alumnus Award from the Indian Institute of Technology (IIT), Kanpur in 2013. Sumant is a Fellow of the American Meteorological Society and the Royal Meteorological Society, and currently a Jefferson Science Fellow of The National Academies of Sciences, Engineering, and Medicine and a senior science advisor to the US State Department.



Sumant was featured on the cover of SCIENCE in May 2004 in connection with a report on foreign-born US scientists, titled "Brains & Borders: Many Origins, One Destination."

Sumant is listed in

- *Marquis Who's Who*
- *American Men and Women of Science*